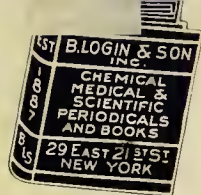


AN
ESSAY

ON

TEETH:

BY H. WELLS.



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1.

ESSAY ON TEETH

Hartford, 1838

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: This small volume, published when its author was twenty-three years of
age, is a creditable work, and it is significant in the story of anesthesia since he
describes toothache and dental pain in general, and ways and means of alleviating
them.





AN ESSAY
ON
T E E T H ;

COMPRISING A BRIEF DESCRIPTION
OF THEIR
FORMATION, DISEASES,
AND
P R O P E R T R E A T M E N T .

BY HORACE WELLS,
SURGEON DENTIST.

HARTFORD.
PRINTED FOR THE AUTHOR,
BY CASE, TIFFANY & CO., PEARL-STREET,
1838.

TO

MY BROTHER,

CHARLES WELLS, M. D

THIS WORK

IS MOST AFFECTIONATELY

INSCRIBED.



ADVERTISEMENT.

It is not intended, by this small treatise, to give a full, anatomical description of Teeth, with their diseases, and method of cure. This can only be done in a much larger and more systematic work. The object of this volume is to impart that information respecting the human teeth, which should be familiar to the mind of every individual.

It is a lamentable fact, that a large proportion of our citizens, and those, too, the most enlightened on other subjects, are but little acquainted with the nature of these invaluable organs, demanding the utmost care for their health and preservation. They are liable to be injured or wholly destroyed by the use of improper dentifrices, as well as by neglect. It is important that those who desire a good set of teeth should be acquainted with the destroying agents, caus-

ing their premature decay. It is believed that this subject will be found satisfactorily discussed in the following pages. If the author has differed in opinion from other writers on any point, he has not failed to give his reasons for so doing, leaving the reader to judge of their soundness. In his opinion, popular errors exist, which, in many instances, arise from deep rooted prejudices, several of which in this work have been duly considered and impartially discussed.

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FORMATION AND DEVELOPMENT OF TEETH.

PRIOR to the existence of any substance which may be termed an embryo tooth, Nature provides a foundation for the reception of those rudiments, soon to develope, and assume a hard, osseous structure, called teeth. This foundation consists of maxillary, or jaw bones, slightly excavated, for the purpose of retaining a deposite, destined to become some of the most useful and ornamental organs in the whole human system. When the teeth first make their appearance in these excavations of the jaw, they are of a soft, gelatinous substance, completely

enveloped by a thin membranous covering. At this period, Nature is very curiously at work, in constructing a partition of bony fibres, between these pulpy bodies, thereby forming a separate cell for each advancing tooth. Ossification soon commences, rendering the surface of these, as yet, imperfect bodies, quite hard, and impervious to all foreign substances. The fangs, or roots, commence their growth by a gradual elongation of these pulps, while an earthy substance, possessing a most beautiful polish, called the *cortex striatus*, or enamel, is in progress, extending itself over that portion of the young tooth, which is eventually to be exposed, and called the body or crown. As the tooth rises in the socket, an absorption of the capsule and gum over its upper surface, follows, as a matter of course. This is a very important

operation in the animal economy; for if it were not the case, a serious laceration of those membranous coverings would be the consequence: it would then, in reality, be what it is now improperly called, the "cutting of teeth." During the formation of teeth, the alveolar process is in a state of rapid progression. The pulps, being quite loose in their sockets, require a support. For this purpose, the alveoli grow much faster than the teeth, previous to their development—so much so, that at the time of birth, they are nearly covered with this bony texture. Were it not for this, there could be no pressure on the gum without injury to the teeth beneath it. The process of teething is frequently attended with painful diseases, caused by difficult dentition. The whole system of the child is susceptible of morbid impres-

sions ; and such a sympathy exists between the different organs, that one imbibes disease from the other. Children are liable, while teething, to fever, spasmodic affections of the limbs, and frequently convulsions of the whole frame. It is too often the case that parents and nurses, desirous of seeing the little sufferer freed from pain, resort to those means which go directly to defeat their purpose. It is a common idea that the teeth cut their way through the gum ; and to facilitate this operation, hard substances are given to the child, to use in the mouth, it being supposed that this unnatural pressure on the gum must assist the teeth in their effort at laceration. This practice cannot be too seriously condemned. It has undoubtedly brought many a child to an untimely grave, by exciting inflammation and fever. In some instan-

ces, it may be judicious to separate the gum over the teeth, with a sharp lancet: and when this is absolutely necessary, if it is not performed by the hand of a skilful operator, an irreparable injury may be the result.

The *dentes sapientiæ*, or, as they are sometimes called, *the wisdom teeth*, appear at a late period, frequently causing much pain, and withal being very troublesome after their protrusion. This results from the irregular position which they take towards the cheek. It is seldom necessary to extract them on that account, for nature will always yield, to accommodate her own deformities.

It is impossible to state the exact time of the appearance of the teeth through the gums. They appear sometimes at as early as the fifth, and again as late as the tenth month after birth;

generally, however, between the sixth and eighth. It is asserted of Louis XIV., of France, and the Emperor Napoleon, that they were born with the two anterior incisores of the lower jaw already formed and developed. This variation of time, no doubt is owing, in a measure, to the general health of the child. Bad health naturally retards the progress of the teeth. They commonly appear in pairs :

1st. The two anterior, or central front incisores of the lower jaw, immediately followed by the two corresponding upper ones :

2d. The bicuspidēs, or the small double teeth of the under jaw, with their corresponding ones in the upper :

3d. The molares, or large double teeth of the under jaw, followed by those in the upper.

Thus far, we have been speaking of the deciduous or temporary teeth. At an early period of their formation, a process is observed departing from the main body, containing the seeds or rudiments of the permanent teeth. The question will naturally arise, where does this new bud find room in the alveolus? It is truly wonderful to notice the operation. There exists no pressure in the cavity, arising from this new process; and yet the alveolus, or cavity, is enlarged in proportion to the growth of the pulp, or young tooth. This is accomplished by various absorbing vessels, always ready for the performance of any task assigned them. For some length of time, there exists a connexion between the two, and both are contained in the same cavity; but as they advance towards perfection, a distinct alveolus is as-

signed for each. This is effected by the deposition of a bony substance between them, facilitated by their mutual progress. When the temporary teeth have made their appearance, the rudiments of the permanent ones are situated behind them, extending deeper into the maxillary bone, and having the same connexion with the surrounding parts, that the mother teeth possessed before their development.

It is highly important that parents should be acquainted with the relative position of the two sets of teeth, the time of change, etc. Many are the evils arising from the injudicious management of the temporary teeth, by professed dentists, who, through presumption and ignorance, are ever ready to perform any operation, if requested by the parent, who is not competent to decide what should be done. In the

majority of cases, the aid of a dentist is not requisite. Nature seldom fails to perform her own work well, but there are instances where the assistance of a judicious and experienced dentist is indispensable; and it is the duty of the parent to determine when this period arrives.

The first teeth generally become loose, so that they may be removed by the pressure of the tongue, or with the fingers. It is a mistaken idea that loose teeth are the only ones to be removed, when the permanent teeth have the appearance of protruding in an irregular position. It is sometimes the case that those which are loose had better remain, while those which are perfectly firm in their sockets should be removed. In the first instance, we see the process of absorption going on at the root, bidding fair for a speedy

removal of the tooth; while in the last case, it is evident the absorbants have not been excited, or not sufficiently so to remove the root, in proportion to the growth of the second tooth; thus giving the latter a different direction from what nature intended it should take.

It is my lot to witness almost daily, serious evils resulting from a premature removal of the first teeth. In observing individuals with very irregular teeth, I generally find, on inquiry, that they are victims to the absurd treatment above alluded to. I am frequently requested by parents to remove the two first lateral incisores of the upper jaw, because the central ones of the second set, which precede them, have the appearance of being too much crowded, and lack for room—the thought not even suggesting

itself to the parent's mind, that room must also be preserved for the permanent ones, adjoining those which have already made their appearance. There are other evils arising from this worse than useless practice, but this one is sufficient to caution every person, having the care of children, not to be too hasty in the removal of their temporary teeth, but to let them remain until they are ready to fall out of themselves, unless they become too troublesome to be endured.

It has been a matter of speculation, with different writers, whether the first teeth are removed from their sockets by the growth and pressure of their successors—that is, whether the absorption of the temporary roots is occasioned by the upward pressure of the permanent ones, or, whether the operation of shedding the teeth is an-

anticipated, and absorption takes place without any other apparent cause. The former is the commonly received opinion, but I must beg leave to differ. Yet I will not pretend to give my opinion, without presenting some argument for its support. In the first place, absorption does not commence at the extremity but at the distance of half an inch from the termination of the root. Another argument, to show that the absorbents act spontaneously, is, that before the rudiments of the secondary teeth make their appearance, absorption has already commenced, and that too, in the cancelli of the bone, where no pressure could exist. Again, when the lining membrane, which covers the crown of a new tooth, has fulfilled the office for which it was intended, it disappears, without the aid of pressure. Bunon even went so far as to suppose

that the roots of teeth were reduced to a fine powder by actual abrasion or wearing. Bourdet gives it as his opinion, that acrid humor is secreted to act as a solvent. Van Sweiten advances an opinion fully as absurd. Speaking of the opinions advanced by these two authors, on this subject, he adds; "I confess it appears much more probable that the milk teeth are without roots; nevertheless, some observations seem to show that the milk teeth, if they are not shed at the proper period, or, when loose, not taken out, are capable of protruding roots from themselves, by means of which they often remain fixed in the jaw through life."

It is a well-known fact, that the first teeth have roots; and these are larger, in proportion to the size of the crown, than those which appear at a later period. The change of a temporary for

a permanent set of teeth varies, but as a general rule, the

Anterior Molares change from 5 to 7 years.

Central Incisores,	6	“	8	“
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Lateral “	7	“	9	“
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Anterior Bicuspidæ,	8	“	10	“
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Posterior “	9	“	11	“
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Cuspidati,	10	“	12	“
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Second Molares,	11	“	13	“
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Dentes Sapiientiæ,	18	“	21	“
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ORGANIZATION OF TEETH.

ARE the teeth extraneous bodies, with respect to a circulation through their osseous substance? This question, two or three able writers have answered in the affirmative, and at the same time, brought forward several arguments to favor the supposition. That the bone of a tooth does contain nerves, blood-vessels, and absorbents, can be proved beyond a doubt, (a question involving very important principles in the surgical treatment of teeth.) It is evident that they are not extraneous bodies, from the fact that the progress of caries excites inflammation in their bony structure, thereby causing

pain previous to their coming in contact with the nerve and lining membrane of the internal cavity. Another argument in favor of this, is, that the teeth of those animals fed on madder for some length of time, change from a white to a reddish hue, and were it not for their vascularity, it would not be the case.

Hunter observes: "a strong circumstance in support of the teeth having no circulation in them, is, that they never change by age, and seem never to undergo any alteration, when completely formed, but by abrasion. They do not grow softer, like the other bones, as we find in some cases where we find the whole earthy matter of the bones has been taken into the constitution." I do not know how long time Mr. Hunter would allow for the teeth to become "completely formed;"

but if his remark is true, an age of 75 or 100 years would not be sufficiently long. After the entire destruction of the vessels which enter the extremity of a root, (thus depriving it of nourishment from this source,) it generally requires but one or two years for this (now in a measure) extraneous body, to become of a dark hue, possessing the appearance of a dead substance. It is in fact no uncommon case, on the extraction of these teeth, to find their roots reduced to a cartilaginous substance. Mr. Hunter was not a practical Dentist, but a very able Surgeon, and writer; had he attended to the practical part of Dental Surgery, it is not improbable that his opinion on this subject would have met with a material change. That a tooth cannot be injected, may be accounted for when we consider the comparatively coarse

ingredient used for this purpose ; for the extreme tenuity of the vessels will not admit of any coloring matter being artificially applied for the purpose of their injection. The bone of the tooth is of so dense a structure, that it is not at all wonderful that they are not frequently tinged with blood when in a state of inflammation. The numerous vessels, permeating its whole structure, have no room for distention.

A lady once called on me, for the purpose of asking my advice respecting a central incisor, of the upper jaw which had caused pain, and was at the time, highly inflamed. On examining the tooth closely, I could distinctly see a portion of the osseous structure, tinged with blood, which proved the existence of blood vessels in that portion of the tooth denominated extraneous.

The internal cavity of a tooth is coated with a vascular membrane, while the external surface of the fang is covered by a *periosteum*, or lining membrane, both imparting vitality to the tooth. If there were not a nervous connexion between these membranes and the tooth, it would be difficult to assign a reason for their existence, as all organs have an important office to perform. One more argument, and I close. It is a well-known fact, that when the roots of teeth become denuded, by the absorption of the alveolar process, and gum, that the *periosteum* also disappears, leaving the bone entirely bare. On the application of an instrument to those parts, thus denuded, an exquisite pain is produced, which could not be the case, were it not for the existence of nerves permeating the bone.

CARIES OF TEETH.

CARIES is a term applied to a disease of the teeth which is almost universal. It is a decomposition of their osseous structure, transforming a beautiful, hard substance into a putrid and offensive mass. The exciting cause of this transformation may be attributed to different sources; but whatever may be the cause, its effect is a certain destruction of the tooth attacked, if it is allowed to remain neglected.

As to the general location of this disease in its first stages, much has been said and written. Bell affirms that "it invariably shows itself on the external surface of the bone, immediately

underneath the enamel ; and its existence is, in many cases, first indicated by a partial breaking down of its crystalline structure ; in others its presence is shown by the discolored bone being seen through the semi-transparency of the enamel. If at this stage of the disease, the tooth be sawn through at that part, so as to intersect its centre, a brown mark will be found in the bone immediately under the opaque spot of the enamel, extending more or less into the substance of the tooth, in a line tending directly towards the cavity. It is darkest at the surface, where, from the disease having commenced at that part, its progress is more advanced, becoming gradually lighter towards the centre."

All writers concur in saying that the disease sometimes commences under the enamel ; but we seldom meet with

a writer who takes the same ground as Mr. Bell. His theory cannot be supported by every-day observation of facts. In lieu of discovering the opaque spot, (mentioned by Mr. Bell) on the surface of the bone immediately underneath the enamel, we find it on the surface of the enamel; and at its first appearance it may be removed by a cutting instrument, without removing the crystalline structure sufficiently to expose the bone. The crown or body of the tooth is usually the object of attack, those places being preferred where the enamel is naturally thin, or has been made so by abrasion. Thus we find the front teeth are first diseased, at the point coming in contact with those adjoining them, thereby preventing the full growth of the enamel. But sometimes the disease appears on the anterior surface of the teeth, being the re-

sult of mechanical operations, or most commonly of neglect, in permitting a most destructive deposite, commonly called *tartar*, to remain on the neck, and part of the crown. As soon as disease has made its way through the enamel, its progress is much more rapid, for it there meets with a substance softer, and consequently more liable to decay. It takes a course directly towards the internal cavity; and on reaching the main nerve, its progress is announced by most excruciating pain, and soon the whole crown disappears.

CAUSE OF CARIES.

MR. FOX, in his excellent work, maintains that diseases of the teeth are, in every respect, analogous to those of bones in general—their cause being an inflammation of the lining membrane, and a consequent separation of it from the bone. To make the last assertion appear the more plausible, he cites a case in which the *periosteum* being separated, will cause death to a portion of the tibia.

Mr. Bell, in reply to this view of the question, remarks: “exclusive of the circumstance that *caries* is, in this passage, confounded with *necrosis*, it contains, in every respect, a false view of

the question. It is extraordinary that this author, arriving as he did at so near an approximation to the true causes of the disease, should have at once confounded not only *caries* with gangrene, but partial gangrene with the total death of the tooth."

Mr. Bell, however, so far agrees with Mr. Fox, as to assign the proximate cause of disease to inflammation, and this takes place in the following manner: "When from cold, or from any other cause, a tooth becomes inflamed, the part which suffers most severely is unable, from its possessing comparatively but a small degree of vital power, to recover from the effects of inflammation, and mortification of that part is the consequence. That the bony structure of the teeth is liable to inflammation, appears not only from the identity of the symptoms which takes

place in them when exposed to causes likely to produce it, with those which are observed in the other bones when inflamed; but more conclusively still from the fact already mentioned, that teeth are occasionally found, in which distinct patches, injected with the red particles of blood, have been produced by this cause after the continuance of severe pain."

That teeth are subject to inflammation, I do not pretend to deny; but, as a general rule, that they first become defective in consequence of inflammation, will, I think, admit of a question. To decide this question, it is necessary to make it appear whether decay commences upon the external surface of the enamel, or not. If this can be satisfactorily decided in the affirmative, it is evident that inflammation is not the primary cause of *caries*. I have be-

fore alluded to a fact, which, to my mind, is perfectly conclusive, viz., that at the first appearance of disease, the opaque spot may be wholly removed without penetrating to the bone; and it is perfectly natural to suppose that any liquid, possessing the eroding property sufficiently to act upon silver, and even to tarnish gold, coming constantly in contact with the teeth, would also act upon them. Such is the nature of the saliva of the mouth; and where we find that extremely vitiated we are sure to find bad teeth. I therefore set this down as one of the principal agents in causing *caries*. And if this is true, it must, as a matter of course, act first upon that portion of the enamel coming in contact with it, which is the external surface.

When a tooth once becomes diseased, it tends to vitiate the saliva, thus

causing it to act with greater effect upon those which are healthy. Another agent in this matter, may be attributed to particles of food remaining between the teeth, which soon putrify, thus acting with a pernicious effect upon the general health of the mouth. In short, whatever has a direct tendency to produce *caries*, also contributes to vitiate the saliva.

Tartar is a foreign substance, which acts chemically upon the teeth, thereby directly causing their decay. It is composed of Phosphate of Lime, fibrina, or cartilage, and animal fat, or oil. It insinuates itself between the gum and neck of the tooth, sometimes nearly covering the crown, producing an unhealthy state of the gums. I have, in several instances known it to collect to such an unsightly mass as to envelope the teeth.

One person who called on me in this state, was exceedingly alarmed; not knowing its nature, but supposing it to be the result of *exostosis*, or a freak of nature, in throwing up a solid mass of jaw to answer for the organs of mastication, in lieu of teeth. On denuding the teeth of this incumbrance, her delight scarcely exceeded her astonishment, on discovering that she had teeth like other people.

There are those who are never troubled with this corrosive substance, even while they are perfectly negligent of their teeth; while others can scarcely prevent its accumulation by the utmost care and diligence, in the use of proper means. This difference may be attributed, in a measure, to peculiarities of the constitution; but we almost invariably find exciting causes before men-

tioned, where it accumulates in a remarkable degree.

Caries is caused by the enamel being weakened or destroyed by any mechanical operation. This is frequently done by ignorant practitioners, who do not hesitate, while cleansing the teeth, to remove also a portion of the tooth itself, in order to make it perfectly white. Acid is sometimes used for the same purpose. This for a time gives satisfaction. The teeth present a beautiful external appearance after such an operation. But a few days will effect sad changes, and the teeth assume a dead appearance. The saliva acts with renewed vigor, until it finally effects an entrance to the bone.

The enamel is frequently made thin, or entirely worn away, by mastication. In such case, *caries* soon makes its appearance.

It is frequently asked, why the negro has a better and whiter set of teeth than the white man. This question has called forth various answers. Some assert that they have no better teeth than ourselves,—that it is owing entirely to the contrast of their black lips. Mr. Fitch endeavors to answer it, by saying, that it is owing to the rotundity of the jaw, peculiar to the negro; thus giving more space for the teeth.

It is not owing to the rotundity of the jaw that gives more space for the teeth of a negro, but to the different angle which they take from the jaw. Mr. Fitch, notwithstanding, is perfectly correct in assigning this fact as a reason why their teeth are healthier than ours, viz.—that having more space for their growth, the enamel attains a thickness which it otherwise would

not; but this is only one reason. It is doubtless owing in a measure, to difference in diet; for we frequently find that those colored persons, serving in opulent families, have as bad teeth in a short time, as those with whom they reside. A simple diet is the surest preventive of disease in the teeth which can be recommended. Sumptuous fare might not act as a direct cause of caries, but it most assuredly has its influence through other agents. If this statement requires proof, we need but look among our savage tribes, who live on coarse fare, and never experience the many infirmities to which we are subject; but pass along to old age with good health, never requiring the aid of a dentist.

It is a frequent remark, that our ancestors were seldom troubled with the tooth-ache, and possessed much better

teeth than ourselves. This is doubtless true ; and it is no less true, that it was in consequence of living more in accordance with the common dictates of reason : Where they could make a simple article of food answer for a meal, and that, too, with a good relish—we must taste of three or four high seasoned dishes, some of which our good old forefathers, being ignorant of their polished names, would call heterogeneous jumbles.

It is generally supposed that sugar and molasses, or, in fact, anything that is sweet, is highly injurious to the teeth. This is a mistake which may be attributed to the fact that confectionary, and nearly all compounds made rich, and extremely palatable, are deleterious. There is nothing more destructive to the teeth than a compound, (sugar being a component part,) sold at nearly

every corner of the streets, under the name of candy; most of which contains ingredients which act chemically—removing the enamel as if by magic. I was acquainted with a young man, residing in the country, who had an excellent set of teeth. He came to the city, and connected himself with a confectionary establishment. In a short time his teeth were entirely ruined, in consequence of the frequent use of that article which he made it his business to deal out to others. We find the teeth of all, who are constant visitors to these shops, more or less defective.

It is often questioned whether tobacco is injurious to the teeth. On this subject I will simply give a short extract from the work of Longbotham, with whom I perfectly agree.

“The smoking or chewing this herb is frequently introduced, from the ve-

hement pain of the tooth-ache, and with most constitutions paves the way to a far more dangerous disease than it is intended to remove, by its acrid and internally violent qualities, in the act of a fumigation, being inhaled; and the chemical oil which it leaves, within the hollows of the teeth, disposes them to blackness, and premature decay; which, though less obnoxious for the present, proves a lasting enemy to the mouth and stomach."

TOOTH-ACHE.

THIS is of all pains the most severe. Indeed it is often a matter of wonder how a tooth, so diminutive in its construction, can be the cause of so much insupportable misery. Although the organ which may be diseased, is small, of itself, yet it has such an intimate connexion with others, that it ceases to be a wonder, when the whole machine is taken into consideration.

The tooth-ache is occasioned by an inflammation of the lining membrane of the tooth, which has become affected by causes already delineated. It is rendered the more painful, on account of the non-elasticity of those parts,

coming in contact with the capillary arteries; which, on account of an increase of arterial blood, seek for distention, and in their efforts to do this, occasion that peculiar sensation called the tooth-ache.

This inflammation is generally excited by the application of cold to the nerve of the internal cavity; but it is sometimes occasioned by an unnatural pressure upon the nerve, either by particles of food forced into the carious opening, or by introducing a plug, at an improper time, for the arrest of its further decay. This is frequently done by those who are not competent for the task which they undertake to perform. Yet there are cases, though seldom, when the most skilful and experienced operator may be deceived.

Where constant pain is caused by this means, it is best to dislodge the

filling. In most cases, the pain will immediately cease, and by proper treatment the tooth may soon be prepared for the second operation, without much fear of the return of pain. I would here allude to a circumstance, which is extremely apt to lead to an erroneous conclusion, and if possible, undeceive those who may be induced to think or speak unfavorably of a dentist who may have done his duty. It is no uncommon case that cold air or water will cause a momentary sensation in those teeth which are much decayed, and have been filled. This may be the case, when, previous to their receiving the plug, they were entirely free from sensation. It is a common conclusion, that if the cavity is completely filled, it is impossible for cold air or water to have any effect upon the nerve; for, it is deemed im-

possible for cold or heat to find its way, nearly instantaneously, through a solid mass of gold. Those who believe this, deny a fact, which is familiar to the school boy who has paid any attention to the study of chemistry, which teaches us that gold is one of the best conductors of heat and cold that has ever been discovered. So far from this circumstance proving that the gold does not fill the cavity properly, it is, on the contrary, an evidence that it has been made quite dense by compression, giving an opportunity for a quick penetration of cold or heat. If, on the other hand, something soft, or even gold itself, were introduced without much compression, the tooth would, in all probability, remain insensible as before.

If the nerve of the tooth is not exposed, this unpleasant sensation will

wholly disappear in a few days, or at most, a few weeks.

Whenever we hear a person complain of the tooth-ache, we take it for granted that his teeth are carious. In this, we are generally correct, but not always. The cavity of a tooth apparently sound, has been discovered to be filled with *pus*, the result of high inflammation of the lining membrane. This process would of course cause pain. Mr. Fox relates an instance of the kind. He observes: "some time ago, I was applied to by a gentleman who complained of an acute pain, arising from one of the molares of the under jaw. As I could discover no appearance of *caries* in it, I advised the loss of blood from the gums, with a view to remove the inflammation in the socket, or other parts connected with the tooth.

“ This treatment was by no means effectual, for the pain continued with scarcely an intermission. The gentleman therefore determined to have the tooth extracted. In attempting this operation, the tooth broke off at the neck, and completely exposed the internal cavity. Fortunately, this accident proved to be satisfactory, as it afforded an opportunity of ascertaining the cause of the pain. The membrane lining the cavity of the tooth, had become so highly inflamed, that it had proceeded to supperation, and the cavity of the tooth was filled with *pus*. Immediately after the operation, the gentleman was perfectly relieved, and had no return of pain. In a similar case, instead of extracting the tooth, I should recommend the drilling of a hole in the neck of the tooth into the cavi-

ty, in order to make an opening, by which the matter might escape."

This doubtless would be a judicious operation, could we always be sure of the existence of pus in the cavity, when the immediate cause of the pain was not perceptible. I have extracted teeth which were perfectly sound, and found the roots covered with lymph, being the result of inflammation. A severe pain may seem to be located in a tooth of the lower jaw, whereas a defective tooth may be the real source, and located in the upper jaw.

So insupportable is the pain of the tooth-ache, and its effectual remedy so revolting to most persons, it is no matter of astonishment that every nostrum which is offered for sale, with the assurance that it will effect a speedy cure, should be grasped with eagerness. Advertisements are daily ap-

pearing, announcing late and important discoveries of some miraculous remedy for the tooth-ache, which will not only free the tooth from pain, but will clear it from all impurities, and re-construct a new enamel over the cavity formed by caries. I will not specify any particular medicine thus offered for sale, but indiscriminately condemn the whole. A temporary release from pain may perhaps be effected. But, after all, the tooth remains in the head, and will cause only more severe suffering. It is no easy matter to destroy the whole nerve of a molar tooth. The part exposed may be paralyzed, while the main portion of it retains its vigor; and in this state it cannot remain without becoming the subject of inflammation, at some future day, if not immediately. It may be said, that when it is wholly destroyed

there is an end of it, and consequently an end to pain for ever from that source.

Where an extraneous substance is allowed to remain in the jaw, it is a cause of continual irritation, producing in many instances the most inveterate head-ache.

We find that the eyes, ears, tongue, &c., may become deranged, by means of a decayed tooth. Where this is the case, the real cause of the mischief is not always known. In fact, I have known persons endure a violent ear-ache for a long time, the result of decayed teeth, and yet the sufferer was little aware of the fact.

Persons who are not blessed with good health, frequently seek a different climate, in order that they may inhale an atmosphere which, perchance, will cure them. Now, on examining the

mouths of a great proportion of these unhealthy persons, we ascertain that they are still receiving into the lungs, at every respiration, an effluvium which they would shudder to encounter, if it proceeded from any other source. In fact they carry with them the sure means to destroy the efficacy of a healthy climate; and all this may be attributed to a decayed tooth.

I will conclude this chapter by enumerating some of the various disorders produced by bad teeth, viz.—tic douloureux, hypochondriasis, epilepsy, sympathetic head-ache, palsy, hemi-crania, hysteria, and rheumatic affections. I could give a case adapted to each of the above disorders, but for want of room shall omit them.

DISEASES OF THE FANGS OF TEETH.

THUS far, we have considered disease as originating in the crown of a tooth. This is truly its principal seat; but the roots are also subject to it, from various causes. It may be the result of some constitutional affection, but more commonly of accident. Any considerable blow upon a tooth is liable to produce inflammation and disease at the root.

A disease, which has the appearance of being analogous to that of other bones, has its origin in the internal cavity. The membrane, and other vessels, are soon destroyed: the crown of the tooth becomes dark, and has the appearance of being an extraneous body: the *periosteum*, covering the root,

is next inflamed; and the gums, from the communication of disease, assume an unhealthy appearance. At this period, if nothing is done to check its progress, a serious evil follows. An offensive matter is formed at the roots of the teeth, which seeks an opening through the gum—sometimes discharging itself near the neck of the tooth, but most commonly taking a course nearly at a right angle with the root.

Exostosis is an accumulation of bone upon the fang of a tooth. This is, however, of rare occurrence; but when it does appear, it cannot be numbered among the least of evils; for it is a sure destruction to one or more of the adjoining teeth. A dull pain is at first felt on one side of the jaw. At times it fixes upon a single tooth, which becomes loose in consequence of the absorption of surrounding parts, excited

by the disease under consideration. This must eventually be removed ; and it has, in some instances, proceeded to such a degree as to render the jaw almost toothless. This osseous deposit, which is the cause of so much evil, is nearly transparent, being unlike the natural bone of the tooth. It is extremely hard, and, in color, of a yellowish hue.

This accumulation, in some instances, is very slow, thus giving an opportunity for the alveolus to enlarge, in proportion to the increase of bone ; in such case, the operation is attended without real pain ; yet there is, in every case, at times, an uneasiness about those parts affected. Where absorption does not keep pace with the deposition of bone, a severe pain will be the result, which has sometimes been mistaken for *tic douloureux*.

CLEANSING OF TEETH.

THERE still exists a prejudice against the use of a brush, for the cleansing of teeth. It is considered by many, not only superfluous labor, but worse than useless, from the supposition that so much friction on the enamel, must be injurious to it. A greater mistake could not exist. We might as well talk of wearing out any other part of the system by frequent cleansing. If any thing softer than a brush is used, it will not do the work effectually. There are instances where a brush has never been used, and yet the teeth have remained perfectly healthy ; and

these comparatively few cases have been introduced, as conclusive arguments in favor of the objection.

I will here state one fact, which may be considered as a weighty argument in favor of the brush. Those teeth which are frequently cleansed with a brush, seldom or never decay on the anterior surface, which is exposed to the greatest friction, while the lateral surface, remaining untouched, first gives evidence of decay.

There are many dentrifices used, which are decidedly injurious; and perhaps this fact has been the means of exciting so much undue prejudice, relative to the proper treatment of teeth, above considered. In selecting a powder, it should be remembered that it ought not to contain a particle of acid.

I would recommend Peruvian Bark,

pulverized, (which may be obtained at most of our apothecary stores,) in preference to any composition offered for sale as “superior tooth powder.”

DENTAL SURGERY.

A FEW words respecting the dental profession may not be out of place, especially as no profession is more liable to the abuses of quackery.

Every trade requiring much intellectual cultivation, has, in this country, a greater proportion of unqualified men in its ranks, than is the case in the enlightened parts of Europe. It is true, that in some branches of public improvement, we leave the old country far behind : in other branches, however, Europe is far before us. The cause of this difference is found in the circumstances connected with the infantile age of our Republic. Our young men,

in many cases, are not in a condition to go through a course of study in the higher seminaries, and frequently those who do pass a collegiate course, commence practice, in their various callings, immediately on the close of their four years' term. In Europe, most educated men are not only *well* educated, but, in multitudes of instances, are educated veterans; and young men before they presume to cope with them for public approbation, must pass, not four, or six, as in this country, but actually twelve, fourteen, or twenty years in the Universities. Hence, in a greater proportion, (other things being equal,) than in this country, they understand well what they *profess* to understand; and hence they are likewise more depended on, and quackery has less chance of practising mischief, at

least, in those circles not lower than our own.

Those who are engaged in active business of any kind, while contemplating real or imaginary difficulties, or privations, peculiar to their particular calling, are apt to become discontented, and envy the condition of others who have been fortunate enough to select a different employment.

Here, those who become thus discontented can abandon any trade or profession whatever, and immediately place the word "DENTIST," for a sign upon their doors, with impunity.

There are instances however, where imperative duty demands a change of business. But there are no circumstances which will justify ignorant pretenders in an act so contemptible as that of imposing on the public, by offering services which they are inca-

pable of rendering, and in place of which, dealing out the seeds of disease and death.

I have said that duty, in some instances, demands a change of occupation. If a young man selects the dental profession, with the intention of making it a business for life, and at length finds himself deficient in mechanical ingenuity, so that his operations prove ineffectual, it is then for his own interest as well as for the interest of those who might employ him, to abandon the profession forever. It is generally supposed, that if a dentist has been long established in business, he must, as a matter of course, be skilful; and frequently this is the only recommendation desired. I unhesitatingly assert that there are many who would not become good dentists, with ever so much practice, wholly for the

want of that one indispensable qualification—natural mechanical skill. I have known those who have performed operations on teeth for many years, and then were unable to compete with others who could boast of but one years' experience. A skilful Dentist should in all cases be employed. There are many who are indifferent respecting this, and they imagine that any person can properly perform so simple an operation as that of filling the teeth, to arrest their decay. This is truly a great mistake ; and not a few can testify to the fact from sad experience.

However simple the operation of filling the teeth may appear, it is, in reality, the most complicated, as well as the most important branch of the profession. An ordinary Dentist may succeed in performing all other operations tolerably well, while this remains be-

yond the reach of his skill. He may truly put gold into the tooth, and perhaps it will keep its place for some length of time ; but if the work is not effectually performed, the decay will proceed as before, even if the gold remains.

The teeth, being conspicuous ornaments to the person, as well as useful auxiliaries in the animal economy, should be as much an object of care and preservation, as any of the bodily functions. It is well known what effect they produce on the lungs, stomach, &c., contributing to their freshness and sweetness, to the preservation of health and strength, or, by their deleterious gases, bring on or hasten decay. Is it not a remarkable fact, that men of fifty or sixty years of age, and upwards, who have long enjoyed sound teeth, have the most vigorous health ?

Doubtless all are convinced of the importance of preserving the teeth, while the only question remains—what is the best method of treatment? In reply to this, I have only to say—first become acquainted with the nature of these organs, and of their destroying agents—and then let reason dictate.



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JFF

Author

Wells, Horace

Essay on teeth.

Call no.

ANESTHESIA

III.1

